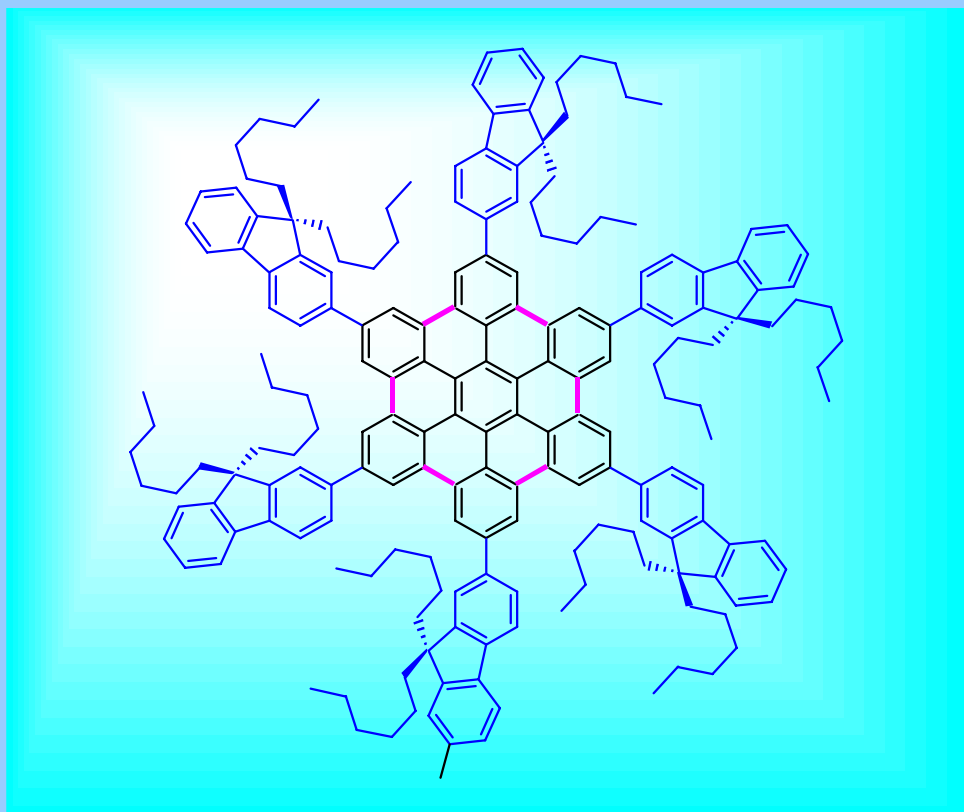
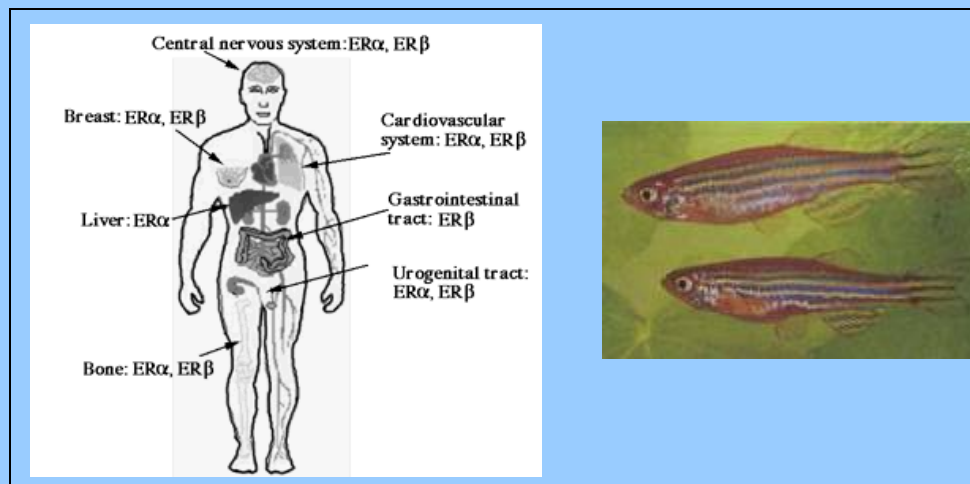
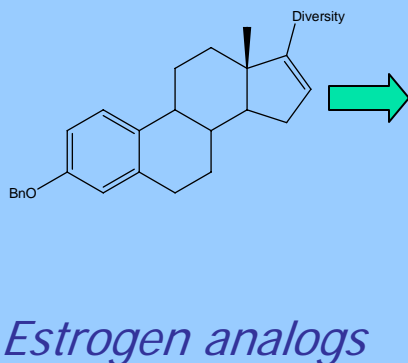


Marquette University Department of Chemistry



Do You Want A Career that will....

- Directly influence the lives of others?



Biological Effects

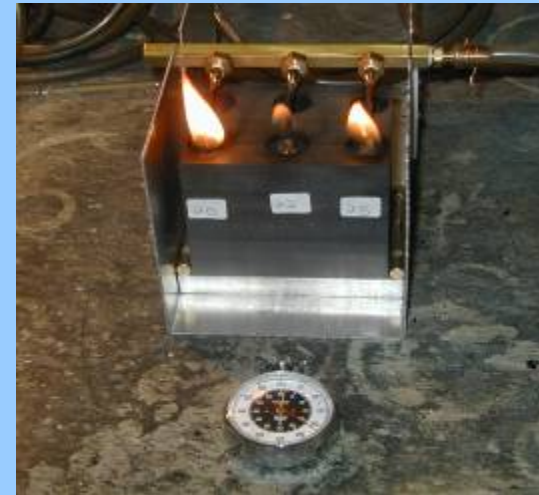
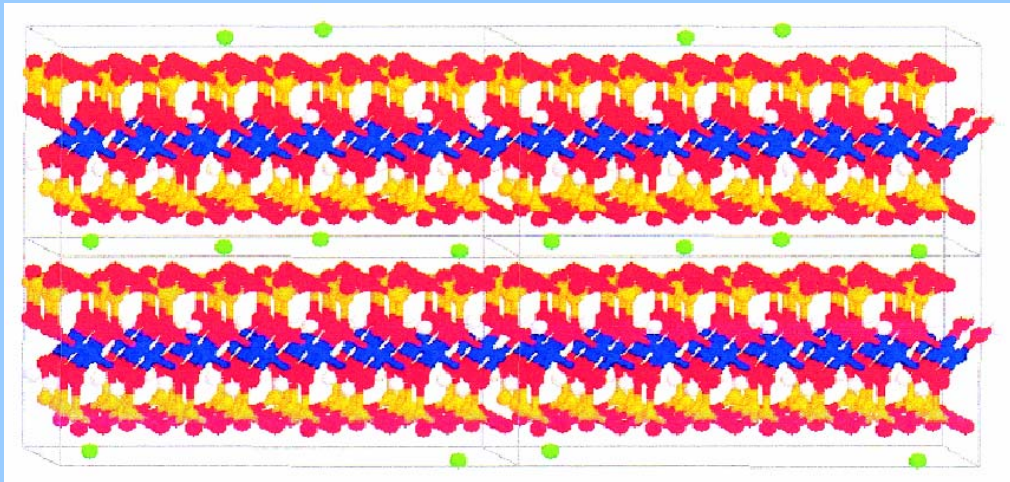
- *Cancer*
- *Endocrine disruptor*

Chemical interactions in the proteome

Explore how understanding the similarities between humans and zebra fish can lead to better cancer therapeutics and cleaner water.

Do You Want A Career that will....

- Directly influence the lives of others?



Develop new materials with enhanced flame-retardant properties.

Do You Want A Career that will....

- Allow you to be creative and is rewarding?
- Allow you to share your ideas with others?

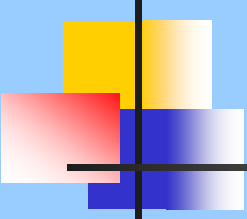


A Marquette Chemistry degree will prepare you for advanced study or for a job right after graduation!



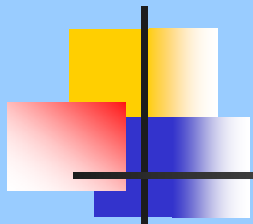
Career Possibilities for Chemistry Students

- Health professions
- Industry (pharmaceuticals, polymers, personal care products...)
- Teaching at all levels
- Forensics, law, environmental science, technical writing, technical sales
- And many more!



Programs offered by the Department of Chemistry

- Chemistry Major – certified by the American Chemical Society
- Biochemistry-Molecular Biology Major – jointly offered with the Department of Biological Sciences
- Chemistry Teaching – offered with the School of Education



Our Curriculum

- General Chemistry – Lecture, Lab and Discussion Sections



***General
Chemistry
Discussion***

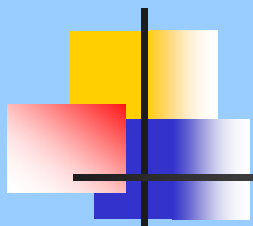


Our Curriculum

- Organic Chemistry – Lecture and Lab

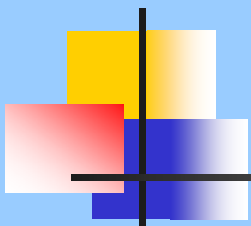


*Organic
Lab*



Our Curriculum

- Analytical Chemistry – Lecture and Lab
 - Quantitative Analysis
 - Instrumental Analysis
- Inorganic Chemistry Lecture
- Inorganic Synthesis Lab



Our Curriculum

- Physical Chemistry Lecture
- Physical Chemistry Lab





Our Curriculum

- Electives in:
 - Biochemistry
 - Characterization of Organic Compounds
 - Polymer Science
 - Also, graduate courses that can be taken by undergraduates

The Marquette Chemistry Advantage

- Strong faculty-student interaction



The Marquette Chemistry Advantage

- Be involved in state-of-the-art research



***Obtain
Hands-on
Experience in
Laser
Spectroscopy***

The Marquette Chemistry Advantage

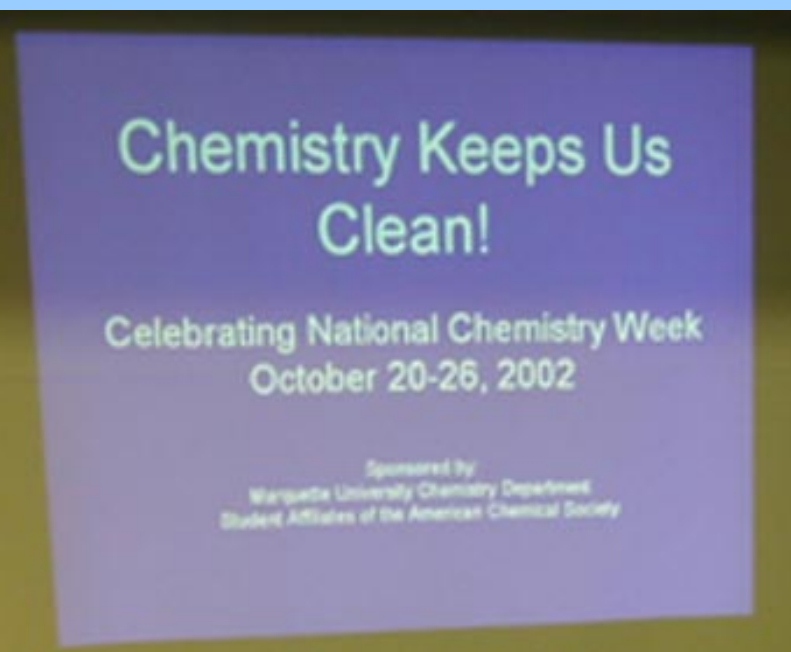
- Be involved in state-of-the-art research



***Design New
Chemical
Sensors***

The Marquette Chemistry Advantage

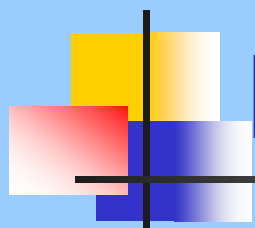
- Join our award-winning chapter of the Student Affiliates of the American Chemical Society



The Marquette Chemistry Advantage

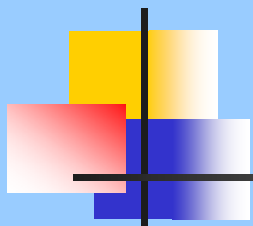
- Gain Teaching Experience as a Lab or Discussion Section TA





Recent MU Chemistry Alumni

- Are working at Pfizer Global Research and Development, Santa Clara University, CH2M-Hill, Milwaukee Metropolitan Sewerage District, Intel, G.D. Searle
- Have enrolled in graduate or professional programs at Purdue, Minnesota, Wisconsin, Johns Hopkins, George Washington University, Marquette Dental School



Recent Renovations of the Todd Wehr Chem Building



Research lab (view from hallway).



All of the research labs are connected with doorways, providing better interaction between groups as well as safety for students working late.



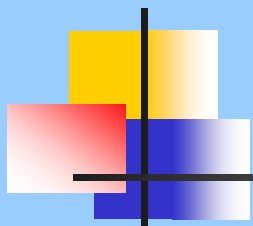
Organic chemistry stockroom.



Undergraduate organic lab



Instrument room between organic labs.



Recent Renovations of the Todd Wehr Chem Building



TA office hour area (not completely furnished yet) and student commons area on the general chemistry floor.



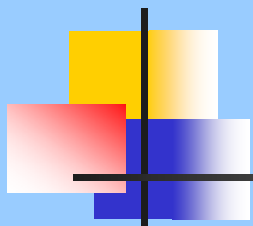
General chemistry labs.



Instrument lab on second floor (general chemistry)



General chemistry stockroom.



Recent Renovations of the Todd Wehr Chem Building

Todd Wehr Chemistry



The Todd Wehr Chemistry building opened in 1966 and has supported the training of thousands of scientists, science teachers, engineers, and health care professionals. The building is also home to thriving faculty research programs, which engage graduate, undergraduate and postdoctoral research associates in exploration of cutting-edge research in a wide range of chemistry-related disciplines. However, much has changed over the past 40 years in the way chemistry research is done and in the way chemistry is taught. A multi-stage renovation program is bringing state-of-the-art chemistry research and teaching facilities to Marquette University.

Phase I: Ventilation-intensive research and teaching laboratories

Phase I renovations targeted the ventilation-intensive 6th floor research laboratories and the 3rd floor organic chemistry teaching laboratories.



Installation of new chases and additions to the roof changed the look of the outside of the building a bit but bigger changes can be found inside with the renovation projects completed to date.

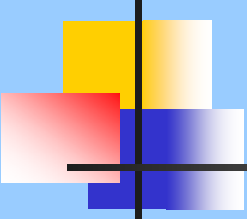


The sixth floor was completely renovated to provide research laboratories for 7 of our faculty working in organic and inorganic synthesis and catalysis, polymer fire retardancy, and biochemistry. For more information on these and other chemistry department research programs, go to <http://www.marquette.edu/chem/faculty/Faculty.shtml>.

Undergraduate organic chemistry students are shown here working in one of the new 3rd floor laboratories, featuring see-through hoods. Between 200 and 260 students are enrolled during each fall and spring semester in organic chemistry courses.



The 3rd floor renovation also included a new computer classroom where students get hands-on experience in computational chemistry, data and spectral analysis, and modeling.



Recent Renovations of the Todd Wehr Chem Building

Phase II: General Chemistry Laboratories

Renovation design focused on optimizing physical space for:

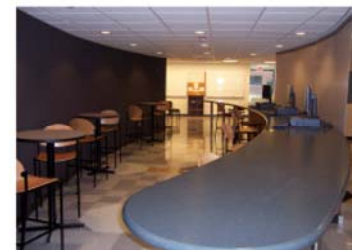
- Incorporation of instrumentation for use in the laboratory
- Use of computer-aided instruction
- Teamwork
- Informal interaction among students, teaching assistants, and faculty

The newly designed layout of the second floor is shown schematically below. In addition to the individual laboratories, the renovation includes a new instrumentation laboratory for use in Quantitative Analysis, a conference room for small-group work, and inviting common areas designed to facilitate student learning through informal discussion with peers, teaching assistants, and faculty. Computer resources are also provided in these common areas.



Each general chemistry laboratory features four-person work groups and a projection system for demonstrations as well as for class discussion of data analysis and results.

Student common areas feature computer stations and areas for students to work together. TA office hour areas are also found in the common areas.

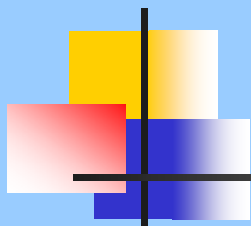


Phase III (Start date to be determined)

Floors 4 and 5 currently house research space for six faculty members, plus instrument rooms for two people with primary space on the sixth floor. An undergraduate teaching laboratory for two upper division courses is also housed on 4th floor. Preliminary planning has taken place in order to verify that the Phase II changes will leave sufficient hood capacity for these floors.

Additional recent renovations: Structural Analysis Facility (Basement)

The department has received funding from National Institutes of Health (Dan Sem, PI) and the National Science Foundation (Bill Donaldson, PI) to purchase two nuclear magnetic resonance spectrometers (NMRs) for analysis of protein and molecular structure. With additional support from the University, a single crystal x-ray diffractometer has been purchased. We now have a



New Instrumentation in Chemistry

state-of-the-art structural analysis facility. Sem's NIH grant also involved major uses from Chemistry, Biological Sciences and the Medical College of Wisconsin and the instrument will be a centerpiece of the Chemical Proteomics Facility at Marquette: <http://www.marquette.edu/pages/home/its/news/internet2/cpfm>. Both laboratories were renovated by the University to house the new instrumentation.



Dr. Sheng Cai, NMR laboratory supervisor/staff spectroscopist with the Varian 600 MHz NMR. The 600 MHz instrument is equipped with a cryoprobe and liquid handler and flow probe for high throughput screening of protein-ligand interactions. The NMR facility also includes the NSF-supported 400 MHz instrument and a 300 MHz NMR with sample changer.



Dr. Sergey Lindeman, X-ray laboratory supervisor/staff crystallographer with the Bruker AXS Smart Apex II single crystal diffractometer with CCD area detector.

Support for the Renovation of Todd Wehr Chemistry

We are grateful for contributions toward the renovation via the generous support of Hydrate Corporation (<http://www.marquette.edu/omc/newsroom/news/prHydrate052305.shtml>) and Henry Kwan, M.U.B.S. 1971, <http://www.marquette.edu/opa/newsroom/news/chemistry-dedication.shtml>. An in-kind donation by 3M of projectors for the new general chemistry facility is also gratefully acknowledged.

If you are interested in supporting the on-going renovation of the chemistry department teaching and research facilities or in other opportunities to support the department such as equipment donation and sponsoring student training via graduate fellowships or undergraduate research funds, please contact the College of Arts & Sciences Advancement Officer, Ms. Danielle Gallette (Danielle.galiette@marquette.edu or 414-288-5436).